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Herbalism in Iran: A systematic review

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ABSTRACT

Historically because of safety of use, efficiency, cultural acceptability, and fewer side effects, herbal drugs have been frequently used in most communities. In light of acceptability of use and convenient accessibility to these plants among Iranians as well as possible side effects due to inappropriate use of them, this review article sought to investigate the attitudes toward use of herbal drugs and the used doses and methods of preparation and use of these plants among Iranians. In this review article, firstly 55 articles in Persian and English languages were examined and 30 articles were excluded from the study because of containing irrelevant content. After detailed analysis of 25 articles, 15 articles were selected and their findings were presented with regards to the purposes of this review article. Overall, 73.5% of women and 72% of men in Iran (totally 71.5% of Iranians) use herbal drugs, 82.9% of the people consider use of herbal drugs as effective, and 41.8% use them as tea. The sources of information are relatives and acquaintances for 37.5% of the Iran and *Echium L.*, *Valerianaceae officinalis L.* *Sisymbrium L.* were the most frequently used herbal drugs. Herbal drugs are used mostly for gastrointestinal problems followed by respiratory problems, neurological problems, genitourinary problems and metabolic diseases. In view of high consumption of herbal drugs in Iran, potential side effects due to their excessive use, and current campaigns encouraging further use of them, it is necessary for experts, to offer necessary training on the preparation, dosage, maintenance, and side effects of herbal drugs to Iranians at various classes.

Keywords: Herbal drugs; Alternative medicine; Traditional medicine; Disease; Herbalism

INTRODUCTION

Having a history of hundreds of years, traditional medicine is composed of various subdisciplines and enjoys a high capacity for prevention and treatment of diseases [1-4]. An approach in traditional medicine is use of herbal drugs [5-12]. World Health Organization (WHO) has recommended traditional medicine and use of herbal drugs as the most appropriate way of accessing treatment for all the people around the world [13-21]. Since thousands of years ago, herbal drugs have been known worldwide. Historically because of safety of use, efficiency, cultural acceptability, and fewer side effects, herbal drugs have been frequently used in most communities [22-33]. Of the commercially available drugs in some of the countries, 80% are nature and plant-based. Moreover in developed countries, use of aromatic herbal drugs has increased significantly in a way that currently 90% of their population use herbal drugs [34-44].

In Iran because of much climatic and geographical diversity, at least 1000 plant species have been registered as herbal drug to date [45]. Great physicians such as Avicenna, Rhazes, and Jorjani, pioneering practitioners of Iranian traditional medicine, abundantly used herbal drugs to treat the patients [46]. Across whole Iran, the experiences of herbal drugs use are transferred from one generation to another and Iranians have used herbal drugs for many centuries as these drugs are still being considered significant for the prevention and treatment of diseases [47-53]. Iranian people constantly use herbal drugs [54-59]. Use of herbal drugs may begin in pregnancy and continue with incidence of jaundice in newborns [60]. Herbal drugs are also used by other age groups such as children, adolescents and mostly middle aged and elderly population [61-67]. Although it is a difficult and complex task to classify the reasons for use of herbal drugs, investigations have indicated that these drugs are mostly taken for gastrointestinal disorders (68,69) followed by respiratory tract diseases [70,71], neurological problems [72-75], genitourinary and metabolic diseases [76-80].

In recent years, use of herbal drugs has risen dramatically. In the USA, use of herbal drugs increased by approximately 3.8 times from 1990 to 1997 [81]. Although herbal drugs are being increasingly used, the consumers tend not to report the use of such drugs to healthcare professionals. In a study 70% of the users of herbal drugs did not report use of them to healthcare professionals. No drugs, including herbal drugs, are absolutely safe and side effects-free [82-85] Exerting useful and therapeutic effects, herbal drugs could also cause several side effects if used excessively [86,87] Regarding the above-mentioned, this review article seeks to investigate the findings of the studies in Iran on the attitudes toward use of herbal drugs and the used doses and methods of preparation and use of these drugs among Iranians.

In this review article, firstly 55 articles in English and Persian languages authored by Iranian researchers were retrieved from Iran's and international reliable databases by means of herbal drugs, traditional medicine, people and method of use as keywords and analyzed. By the primary analysis, 30 articles were excluded because their content was irrelevant to the purposes of this review article and 25 articles underwent more detailed analysis. Of these 25 articles, finally 15 articles were selected and analyzed with regards to the purposes of this article.

Analysis of the studies indicated that 10 plants or plant-based products consisting of *Echium L.*, *Valerianaceae officinalis L.*, *Sisymbrium L.*, *Cichorium intybus L.*, *Fumaria officinalis*, *Salvia hispanica*, *Thymus vulgaris*, *Cinnamomum verum*, *Zingiber officinale*, *Violaceae*, were the most frequently purchased drugs from the groceries across Iran. The most frequently used method of supplying and accessing herbal drugs among Iranians was purchasing from groceries (66.7%) followed by harvesting on nature in person (26.8%), purchasing from pharmacies (3.4%) and cultivating in and harvesting on personal garden or farm (3.1%). Although it is difficult to arrive at a conclusion for the reasons for use of herbal drugs based on the articles, these drugs are mostly taken for gastrointestinal disorders followed by respiratory tract diseases, neurological problems, genitourinary problems, and metabolic diseases

Table 1. Rate of use of herbal drugs among Iranian subjects

	Total population of Iran (%)	Women (%)	Men (%)
Use	71.5	73.5	70
Lack of use	28.5	26.5	30
Total	100	100	100

Table 2. Rate of use of herbal drugs in some provinces and cities of Iran

Author(s)	Region of study	Use (%)	Lack of use (%)	Total (%)	Reference
Akbari	Shahrekord	71.4	28.6	100	[88]
Heydarifar	Qom	93.5	6.5	100	[89]
Seddighi	Tehran	38.4	61.6	100	[90]
Bagheri	Isfahan	65.8	34.2	100	[91]
Salehian	Iranshahr	69.9	30.1	100	[92]
Beheshtipour	Shiraz	93	7	100	[93]
Sereshti	Chaharmahal va Bakhtiari	68.8	31.7	100	[94]
Pirbaloti	Kurdistan	95	5	100	[95]

The findings on the used doses of herbal drugs and the rate of herbal drugs use in different subpopulations, cities, and provinces across whole Iran (Tables 1 and 2, respectively), attitudes and beliefs regarding the effectiveness of

herbal drugs among some people in Iran (Table 3), methods of preparation and the type of used plant-based product (Table 4) and people's sources of information on herbal drugs (Table 5) are also shown.

Table 3. Attitudes toward the effectiveness of herbal drugs in some people of Iran

Study population	Elderly (%)	Female students (%)	Pregnant women (%)	Mean (%)
Effective	91	66	91.7	82.9
Ineffective	9	34	8.3	17.1
Total	100	100	100	100
Reference	[88]	[92]	[94]	

Table 4. Methods of preparation and the type of used plant-based product by people [96]

Method of preparation	type of used plant-based product	Method of use	Rate (%) of use
Brewing	Tea	Edible	41.8
Separating waste	Uncooked	Edible	29.8
Boiling and distillation (extraction)	Extracts	Edible/topical	24.5
Miscellaneous	Poultice, oil, etc.	Topical	3.9

Table 5. Sources of information on herbal drugs among people [94,96]

Sources of information	Effectiveness (%)
Relatives and acquaintances	37.5
Traditional experiences of plants	31.6
Books and journals	10.4
Groceries	9.9
Healthcare team	6.8
Mass media	3.8
Total	100

DISCUSSION

Traditional medicine and herbal drugs have been used by humans since many years ago and herbal drugs have been constantly used throughout history to remove the pain and suffering due to diseases [97-104]. Use of herbal drugs is a therapeutic approach in traditional medicine and the lessons learned from this discipline have long been transferred from one generation to another [105,106]. Nowadays, herbal drugs and their derivatives account for 20% of drug prescriptions in industrially developed countries and 80% of those in developing countries [98]. WHO has reported that 80% of the people worldwide opt to use plants extracts or their effective components for primary healthcare [107].

In the USA, 33.3% of adult population each year is estimated to use plant-based products [108]. In a study in New Zealand 70% of the respondents reported that they had used one or more herbal drugs within one year prior to the interview [109].

In view of the findings of the studies conducted in different cities of Iran, the rate of herbal drugs use varies in different regions of Iran. The studies of Iran have indicated that approximately 72% of the Iranians use herbal drugs to prevent and/or treat their disease [96], which is comparable to the global mean rate of use (80%) reported by WHO [107].

Comparison of the findings of the studies conducted in Iran indicated that the highest rate of use of the herbal drugs and related products was reported in Shiraz [93], which could be explained by wide distribution of herbal drugs and related products, particularly extracts, in Shiraz and hence easy access of Shiraz people to them. The lowest rate of use in the referenced study was reported in Tehran [90], which is consistent with the findings of the studies in developed countries [108], if Tehran is considered as an advantaged and advancing city of Iran.

By the analyzed articles of the herbal drugs purchased from the groceries across Iran, 10 plants consisting of *Echium L.*, *Valerianaceae officinalis L.*, *Sisymbrium L.*, *Cichorium intybus L.*, *Fumaria officinalis*, *Salvia hispanica*, *Thymus vulgaris*, *Cinnamomum verum*, *Zingiber officinale*, *Violaceae*, have been most frequently purchased and used [88,94,110].

In sum, although herbal medicines and medicinal plants have been investigated and are used extensively [111-122], however, their safety and their mechanism actions should be investigated more than before. Altogether and because of the current campaign in Iran encouraging use of herbal drugs and nature-based products, this should be considered as a significant issue, because excessive use of herbal drugs could cause side effects for the people at any ages [82].

Regarding different studies of Iranian traditional medicine, finding that over 70% of the people use herbal drugs to prevent and treat diseases and over 60% of them consider their use as leading to no side effects, this concern is logical and therefore experts should offer necessary training on the dosage and methods of preparation and maintenance of these plants to different classes of people particularly women to reduce arbitrary taking of them and to the people interested in use of herbal drugs for treating their diseases so that they may use herbal drugs more knowledgeably.

CONCLUSION

In view of high consumption of herbal drugs in Iran, potential side effects due to their excessive use, and current campaigns encouraging further use of them, it is necessary for experts, rather than non-experts, to offer necessary training on the preparation, dosage, maintenance, and side effects of herbal drugs to Iranians at various classes.

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